

## Appendix E

# AIRPORT RECYCLING PLAN

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### INTRODUCTION

The Treasure Valley Executive Airport at Caldwell works to maintain compliance with applicable federal, state, and local waste regulations. However, the most important recycling policy for the airport is the FAA Modernization and Reform Act of 2012 (FMRA), which amended Title 49, United States Code (U.S.C.), and included several changes to the Airport Improvement Program (AIP). The changes contained in Section 132 (b) of the FMRA expanded the definition of an airport planning project to include “developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit.” This change caused the recycling and reduction of waste to become a consideration for the current Airport Master Plan update for the Airport. Additionally, Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, specifically address solid waste recycling. Inclusion of this Recycling Plan in the Master Plan Update ensures that the Airport has the information to address the under-mentioned issues.

### SCOPE OF EXISTING RECYCLING PROGRAM

- a) **Facilities over which the Airport has direct control of waste management** – Currently, there are recycling services for recyclable materials and waste disposal services for non-recyclables at the Airport Terminal Building, performed by Republic Services. Recycling services include removing and recycling materials such as newspaper, aluminum, tin, mixed paper, corrugated cardboard, and #1 and #2 plastics, as well as the removal of all perishable and non-recyclable waste materials.
- b) **Areas over which the Airport has no direct control, but may have influence** – The Airport continues to encourage hangar occupants, airport tenants, the Airport Café, the FBOs, Midfield Aviation LLC, Silverhawk Aviation Academy, and those individuals wishing to dispose of waste to recycle as much as possible using the facilities provided by Republic Services.
- c) **Areas over which the airport has no direct control or influence** – The Airport has no direct specific control over general/non-commercial airport tenants regarding recycling material.

The Airport’s municipal solid waste (MSW) program is managed by the Airport Manager, who is the responsible party for designing and implementing the recycling program at the Airport. The program is serviced by Republic Services of Nampa, ID who sorts recyclables from non-recyclables. Non-recyclables are ultimately sent to the Canyon County Landfill, Idaho, which is a municipal solid waste disposal facility permitted by the Idaho Department of Environmental Quality and is in full compliance with all federal and state rules and regulations.

Most of the solid waste at the Airport is generated by airport users such as the Midfield Aviation LLC, Silverhawk Aviation, the Airport Café and, to a lesser extent, itinerant pilots deplaned waste, and individuals/organizations who lease hangars or the airport grounds for aeronautical activities.



*Treasure Valley Executive Airport’s Waste Management and Recycling Process*

## REASONS THE AIRPORT SHOULD PROMOTE RECYCLING

Implementing a recycling, reuse, and waste reduction program at the Airport may include the following benefits:

- Airport users and tenants are more likely to utilize onsite facilities or take their recyclables to the Republic Services collection center.
- Minimize contributions to the local Canyon County Landfill.
- Reduce overall solid waste generation.
- Increased reuse of materials.
- Coordinated arrangements for pick up allowing easy transport of recyclables to the local Republic Services facility for sorting.

## CONSTRAINTS TO RECYCLING PROGRAM

Possible constraints to the Airport’s recycling program may include:

- Low volume of material eligible for recycling.
- Lack of properly marked containers could discourage airport users and tenants to use recycling facilities.
- Poorly located containers, if placed in inaccessible or inconvenient areas.
- High costs associated with recycling the recyclable material themselves.

## REVIEW OF WASTE MANAGEMENT CONTRACTS

Currently, solid waste collection services are paid for from the general revenue account of the the Airport. This is an airport expense, but no specific revenue budget line item is associated with the activity. Without airport owned containers that provide for the collection and sorting of recycling material, the existing service provided by Republic Services, may not necessarily encourage the purchase or use of environmentally preferred products. The airport terminal has two 95-gallon containers, or 0.47 Cubic Yards (CY) and the Airport Café has two 6 CY dumpsters. **See Table E1.** The solid waste is collected weekly and transported to the Republic Services’ collection facility in Nampa, located 11.6 miles from the airport. Here the recyclables are sorted and consolidated. Non-recyclables are disposed at the Canyon County Landfill, located approximately 22 miles south of the Airport.

The Environmental Protection Agency’s (EPA’s) guidance: Developing and Implementing an Airport Recycling Program, recommends that airports aim at recycling 30 percent of all waste and 20 percent of paper waste annually. The recommended recycling targets for the Airport from 2019 to 2039 were calculated using the EPA Guidance and based upon the Design Day documented within the Draft 2020 Master Plan Update. The summary below considers **Tables E1, E2, and E3.** In reviewing the existing waste management contract:

- There is an existing capacity of 12.94 CY for waste containers. (Table 8.0)
- At the existing 2019 rates, the airport pays \$4,221.24 per year for waste management services. It is expected that costs will escalate. The values in **Table E2** project an annual increase of 1 percent in the cost of waste management services.
- 33 percent (14.10/ 42.11 CY) of airport waste is recycled monthly. (Table 8.1)
- While recyclable volumes are relatively low, they will likely grow as the Airport and its tenant base grow in future years. In **Figure E1** below, a baseline for annual waste of 505.35 CY or 84 dumpsters (6 CY), is projected to reach 553.93 CY in 2039. This is equivalent to 92 dumpsters of solid waste (6 CY). This was projected using a CAGR of 0.46 percent, similar to the growth CAGR for Design Day Peak Users.
  - This level of growth in daily usership at the Airport, alone, should not require additional waste collection capacity during the planning period. If growth is more significant than projected here the Airport may need to increase waste capacity, which will increase costs for removal beyond projections shown here.
- Typically, general aviation users at the airport will contribute approximately 0.0019 CY of waste daily.
- Design Day peak waste equals is 0.13 CY. (**Table E3**)

**TABLE E1 | BASELINE DISPOSAL CAPACITY (CY) AT AIRPORT**

	Qty	Cubic Yards	Total
Terminal	2	0.47	0.94
Airport Café	2	6	12
<b>Total</b>			<b>12.94 CY</b>

**TABLE E2 | WASTE REMOVAL AND RECYCLING SERVICE COSTS/ QUANTITIES**

Airport Terminal	Non-Recyclables	Recyclables*	Monthly Waste	2019 Baseline	2024	2029	2039
Qty of Waste Collected (CY)	2.04	0.59	2.62	31.47	32.20	32.95	34.50
Cost†	\$ 23.85	\$ 11.35	\$ 35.20	\$ 422.40	\$443.95	\$466.59	\$515.41
Airport Café	Non-Recyclables	Recyclables	Monthly Waste	Baseline Year Waste	2024	2029	2039
Qty of Waste Collected (CY)	25.98	13.51	39.49	473.88	484.88	496.13	519.43
Cost†	\$ 260.09	\$ 56.48	\$ 316.57	\$ 3,798.84	\$3,992.62	\$4,196.28	\$4,635.31
<b>TOTAL QUANTITY (CY)</b>	<b>28.02</b>	<b>14.10</b>	<b>42.11</b>	<b>505.35</b>	<b>517.08</b>	<b>529.08</b>	<b>1,034.84</b>
	<b>TOTAL COST (\$)**</b>		<b>\$ 351.77</b>	<b>\$ 4,221.24</b>	<b>\$4,436.57</b>	<b>\$4,662.88</b>	<b>\$5,150.72</b>

1. Assumes 25 percent of recyclable material is recovered from Municipal Waste (MSW)\*
2. Cost of recycling varies based on the size of container (6 CY = \$56.48 and 0.47 CY = \$11.35)†
3. Costs (\$) consider a 1 percent rate of annual inflation

Sources: Caldwell Industrial Airport; EPA - National Overview: Facts and Figures on Materials, Wastes and Recycling; FAA - Recycling, Reuse and Waste Reduction at Airports

**TABLE E3 | DAILY WASTE DISPOSAL AND RECYCLING TARGETS**

ITEM	2019	2024	2029	2039
Design Day Peak Hour Users (Based + Itinerant + Employees + Customers)	71	75	77	82
Design Day (DD) Peak Waste (CY)	0.13	0.14	0.15	0.16
<b>Design Day Recycled Waste Target (CY)</b>	<b>0.040</b>	<b>0.043</b>	<b>0.044</b>	<b>0.047</b>
<b>Design Day Recycled Paper Target (CY)</b>	<b>0.027</b>	<b>0.029</b>	<b>0.029</b>	<b>0.031</b>

Source: Caldwell Industrial Airport Draft MPU 2020 pg.2-35\*/ J-U-B

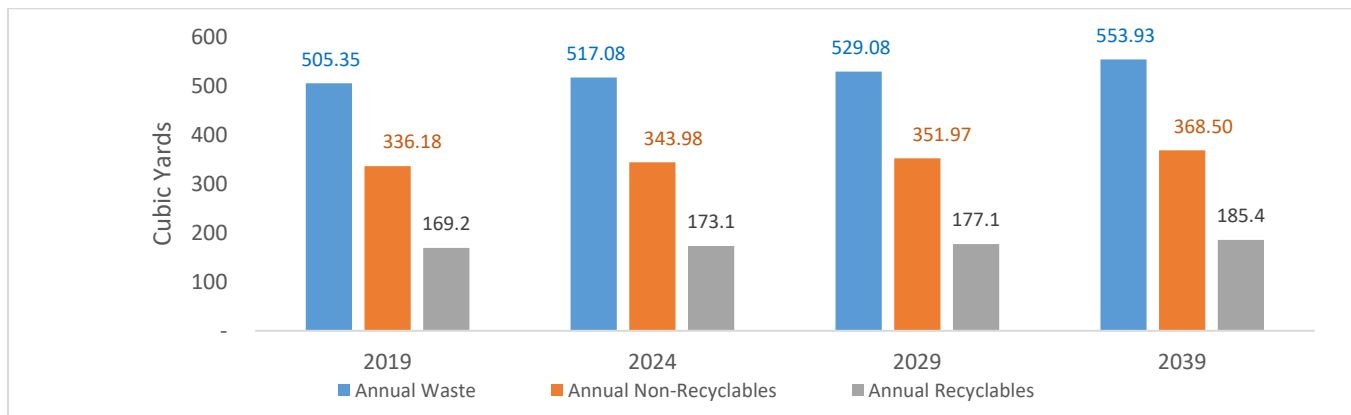


Figure E1: Total Waste and Recyclables Quantities, 20-Year Projection

Source: J-U-B

## THE POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

Case study example from the FAA Recycling, Reuse and Waste Reduction at Airports, A Synthesis Document, 2013:

*“John Wayne Airport (JWA) is owned and operated by County of Orange, California. JWA began source-separated recycling in December 2008 at the Eddie Martin building and at the loading dock below the Terminal. Recycling carts and a 3-yard recycling bin were placed in the Eddie Martin building and a 40-yard recycling dumpster was placed in the loading dock. To facilitate use of the new recycling bins, JWA developed a pictorial recycling flyer so staff would know what goes where.*

*Larger versions of the flyer were posted at each recycling bin. Bottle and can recycling was initiated with one major terminal vendor. Coffee ground collection and composting was initiated in 2010. JWA expanded its recycling to the public areas of the terminal after a terminal expansion project was completed in late 2011.*

*In 2009, the recycling rate for materials collected was 54%, a 12% increase over 2008. Construction and Demolition (C&D) tonnage from the terminal expansion project was recycled by private contractors. The total 2009 diversion rate including C&D was 85%, which increased to 87% in 2010. The recycling rate for materials collected also increased to 55%, a 1% increase over 2009. JWA continues to be committed to reducing its environmental footprint in an efficient, cost-conscious manner.”*

It is likely that no real cost savings or potential for revenue generation exists with the current volumes and types of solid waste and potential recyclables that exist at the airport today. A recycling program should still be maintained with the following goals:

### **Goals**

- Maintain a monthly recycling quota no less than 30 percent (12.63 CY). Currently, the Airport recycles 33 percent of its waste (14.1 CY).
- Maintain a monthly paper recycling quota of no less than 10 percent (4.21 CY).
- Maintain daily waste capacity of airport containers, at no less than 0.13 CY.
- Continue recycling efforts described in **Table E4**.

Participating in recycling and responsible waste management programs is an appropriate role for a community facility like the Airport and shows dedication toward being good stewards of the land. Even though such recycling and waste management programs may not be especially financially viable, being involved in these processes today will better prepare the Airport for the future if state and federal aviation policies change or substantial growth occurs and translates into general or commercial aviation growth at the Airport. Any growth would result in additional quantities of waste being generated and with a sufficiently scalable recycling program, the Airport would be able to adjust its processes easily to offer economic and operational savings.

### **PLAN TO MINIMIZE SOLID WASTE GENERATION**

Objectives must be established for the program before commencing collection activities. These goals may be based on targets set by the community. They may require the airport to recycle a certain percentage of its waste to help with this goal. The City of Caldwell is guided by Chapter 6 of the Health and Sanitation Act; Article 6.03 Health and Sanitation Nuisances Act.

The Airport’s comprehensive approach to reduce the amount of waste being disposed of can include the following objectives:

**TABLE E4 | AIRPORT RECYCLING RECOMMENDATIONS**

	<b>OBJECTIVE</b>	<b>TARGET DEADLINE</b>
<b>A</b>	Purchase/contract and locate suitable sized container(s) for collection. On a regular basis, Airport maintenance staff can transport the recyclables to the local Canyon County Landfill facility, where they can utilize the self-service recycling area, or purchase/contract and locate suitable sized containers for collection and negotiate a suitable annual contract fee for removal services, ensuring it is less than their present annual cost.	6-months post MP submission
<b>B</b>	Review City of Caldwell policies on reuse, recycling, and waste reduction and recommend updates to the City of Caldwell for the Airport, as necessary.	8-months post MP submission
<b>C</b>	<p>Implement policies and educational programs that encourage airport users and tenants to minimize the amount of waste that is being disposed of in the landfill and reuse materials whenever possible by participating in a reuse and recycling effort.</p> <p>For example, purchase items made from recycled products. Other ideas include the following:</p> <ul style="list-style-type: none"> <li>i. Label waste containers properly and place them in optimum locations for use and collection.</li> <li>ii. Encourage waste separation at the source.</li> <li>iii. Negotiate for a reduced annual cost for the service offered by Republic Services.</li> <li>iv. Reduce the dependence on Republic Services, encourage airport users and employees to implement their own recycling service.</li> <li>v. Encourage tenants to purchase recycled-content products to “close the loop” and increase demand for recycled-content products in the marketplace, helping to ensure demand for the recyclable materials.</li> <li>vi. Require vendors to package waxes, cleaners and other airport custodial products in refillable containers that can be accepted back by the manufacturer for reuse.</li> <li>vii. Contract paint manufacturers of the Airport’s specification paints to accept any paint waste, which can be mixed into new paint batches.</li> <li>viii. Contractual requirement to reduce packaging of products bought in bulk by the Airport.</li> <li>ix. Enforce requirements that concessions use compostable plates, plastic ware, and other high use items.</li> <li>x. Contractual arrangement with vendors to return and reuse shipping pallets with new shipments.</li> <li>xi. Practicing ‘Xeriscaping.’ The practice of xeriscaping applies to landscaping that uses slow-growing, drought-tolerant plants, which conserve water and reduce the amount plant trimmings, and ultimately waste generation.</li> <li>xii. Practicing ‘Grasscycling.’ The practice of grasscycling simply means leaving the grass clippings on the lawn after mowing. The grass clippings quickly decompose, allowing valuable nutrients and moisture to return to the soil.</li> <li>xiii. Practicing ‘Mulching.’ The process of mulching involves physically breaking up the landscaping trimming using a chipper, grinder, or other mechanical means. The resultant “mulch” can then be applied as a protective cover over bare areas of soil to retain moisture, provide insulation from cold weather, reduce erosion, provide nutrients, and suppress weed growth and seed germination.</li> <li>xiv. Determine specific quantities and origins of recyclable and non-recyclable waste that is generated. For example, municipal waste, construction and demolition waste, green waste, food waste and deplaned waste. It is noteworthy that the airport generates and pays the most for food waste, compared to other forms of waste.</li> <li>xv. Establish an internal airport recycling and waste management program and, or service capable of converting non-recyclable waste into energy and recyclable waste into a useful by-product, within the next 20 years.</li> </ul>	12-months post MP submission
<b>D</b>	<p>Recommend to the City, that they review and update arrangements, contracts, and/or leases between the Airport users or tenants and the City of Caldwell, to encourage purchasing policies/requirements focusing on purchasing products made from post-consumer recycled materials and incorporate necessary changes.</p> <ul style="list-style-type: none"> <li>i. Recycling and Waste disposal contractors should provide the Airport with an accounting of material volumes and types of materials submitted for recycling on each project.</li> <li>ii. The Airport could also consider the level of recycling that is intended as part of the contractor selection process.</li> <li>iii. After implementation of the measures shown above, the Airport may track the performance of these efforts.</li> </ul>	15-months post MP submission
<b>E</b>	Review and revise current construction contracts and agreements to reflect the Airport’s recycling goals for Construction and Demolition (C&D) Debris and incorporate necessary changes.	18-months post MP submission

Source: J-U-B Engineers

NOTE: This Airport Recycling Plan was researched by J-U-B. Engineers, the current airport consulting engineer.